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2002

June

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# Advectus teams up on brain tumour drug delivery

6 June 2002

**Canadian biotech business Advectus Life Sciences is to collaborate with the University of North Carolina at Chapel Hill, US. The organizations will determine the effectiveness of Advectus's Nanocure nanoparticle technology for delivering cancer-fighting drugs to brain tumours.**

The preclinical studies will test the Nanocure P80DOX-NP formulation on rodent brain metastases. Advectus says that P80DOX-NP is a novel method for delivering doxorubicin (a powerful anti-tumour drug) across the blood-brain barrier - a network of blood vessels and cells that protect the brain and prevent certain molecules from passing through. Doxorubicin does not normally cross this barrier, but Advectus claims that preclinical tests have shown that Nanocure technology can deliver the drug through it.

Nanocure consists of a nanoparticle of poly(butylcyanoacrylate) polymer coated with a layer of doxorubicin and a layer of polysorbate-80. Once Nanocure enters the bloodstream, the polysorbate-80 coating attracts apolipoproteins. These proteins coat the nanoparticles and camouflage them from the body. As a result the blood-brain barrier treats the particles as if they were low-density lipoproteins (LDL) - a form of cholesterol. LDL receptors in the brain transport the Nanocure particles through the blood-brain barrier. The particles then break down, allowing the diffusion of doxorubicin into the brain tissue.

Advectus Life Sciences is a wholly owned subsidiary of Jaguar International Equities.

## About the author

Liz Kalaugher is editor of nanotechweb.org.

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